

A TWO STAGE EQUALIZER FOR TRELLIS CODED SYSTEMS

ABSTRACT OF THE DISCLOSURE

5 For use in a receiver capable of decoding trellis encoded signals, there is disclosed an apparatus and method for reducing error propagation in a two stage decision feedback equalizer. The apparatus of the invention comprises a first stage equalizer comprising a first forward equalizer filter, a first decision feedback equalization filter, and a trellis decoder. The apparatus of the invention also comprises a second stage equalizer comprising a second forward equalizer filter and a second feedback equalization filter. The two stage decision feedback equalizer is capable of obtaining symbol values from the trellis decoder and using the symbol values as estimates in channel equalization. In one embodiment of the invention, a two stage decision feedback equalizer is provided in which forward filter coefficients remain constant for the duration of D symbols.